Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Final recommendation statement: skin cancer: screening.

Bibliographic Source(s)

Final recommendation statement: skin cancer: screening. [internet]. Rockville (MD): U.S. Preventive Services Task Force (USPSTF); 2016 Jul [7 p]. [22 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Screening for skin cancer: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2009 Feb 3;150(3):188-93. [12 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the levels of certainty regarding net benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

Summary of Recommendation and Evidence

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of visual skin examination by a clinician to screen for skin cancer in adults (I statement).

Clinical Considerations

Patient Population Under Consideration

This recommendation applies to asymptomatic adults who do not have a history of premalignant or malignant skin lesions. Patients who present with a suspicious skin lesion or who are already under surveillance because of a high risk of skin cancer, such as those with a familial syndrome (e.g., familial atypical mole and melanoma syndrome), are outside the scope of this recommendation statement.

Assessment of Risk

Skin cancer of any type occurs more commonly in men than in women and among persons with a fair complexion, persons who use indoor tanning beds, and persons with a history of sunburns or previous skin cancer. Specific risk factors for melanoma include having a dysplastic nevus (atypical mole), having multiple (i.e., ≥100) nevi, and having a family history of melanoma. Like most types of cancer, the risk of melanoma increases with age; the median age at diagnosis is 63 years, and the median age at death is 69 years.

Suggestions for Practice Regarding the I Statement

Potential Benefit of Early Detection and Treatment

Direct evidence to assess the effect of screening with a clinical visual skin examination on the risk of death from skin cancer is limited. A single ecologic study (Skin Cancer Research to Provide Evidence for Effectiveness of Screening in Northern Germany [SCREEN]) with important methodological limitations suggests that a 1-time, general population–based screening program (with limited participation of 19%) combined with a disease awareness campaign may result in, at most, 1 fewer death due to melanoma per 100,000 persons over a decade. An independent analysis of the SCREEN population found that the observed melanoma mortality rate returned to preintervention levels after 5 years of follow-up (see Figure 3 in the original guideline document).

Potential Harms of Early Detection and Treatment

Information on the harms of screening is also sparse. The majority of suspicious skin lesions excised during screening are not cancerous; for example, the SCREEN study found that between 20 and 55 excisions were performed to detect 1 case of melanoma, depending on patient age. The SCREEN study did not report the number of excisions required to prevent 1 death from melanoma, but it can be estimated at more than 4,000. Overdiagnosis and overtreatment—the diagnosis and treatment of cancer that would never have harmed the patient in the absence of screening—are other important potential harms. Ecologic evidence suggests that screening with a visual skin examination results in the overdiagnosis of skin cancer; however, current evidence is insufficient to be reliably certain of the magnitude of this effect.

Current Practice

Contemporary data on clinician practice patterns related to skin cancer screening are limited. A 2005 survey of U.S. physicians found that 81% of dermatologists, 60% of primary care physicians, and 56% of internists reported performing a full-body visual skin cancer screening examination on their adult patients.

Screening Tests

The clinical visual skin examination assesses skin lesions using the "ABCDE rule" which involves looking for the following characteristics: asymmetry, border irregularity, nonuniform color, diameter greater than 6 mm, and evolving over time.

Screening Interval

The optimal interval for visual skin examination by a clinician to screen for skin cancer, if it exists, is unknown.

Treatment

Treatment of screen-detected melanoma generally involves excision, with or without lymph node management, depending on the stage at diagnosis. There are a variety of treatments available for squamous and basal cell carcinoma (which have excellent cure rates), including surgical excision, Mohs micrographic surgery, radiation therapy, curettage and electrodessication, and cryosurgery, among other options.

Other Approaches to Prevention

The USPSTF recommends that children, adolescents, and young adults aged 10 to 24 years who have fair skin be counseled about minimizing their exposure to ultraviolet radiation to reduce their risk of developing skin cancer.

Useful Resources

The Community Preventive Services Task Force has made a number of recommendations related to preventing skin cancer through the use of interventions that target child care centers; outdoor occupational, recreational, and tourism settings; primary and middle schools; and communities (available at http://www.thecommunityguide.org/cancer/index.html).

Definitions

What the USPSTF Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read the "Clinical Considerations" section of the USPSTF Recommendation Statement (see the "Major Recommendations" field). If offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: The number, size, or quality of individual studies Inconsistency of findings across individual studies Limited generalizability of findings to routine primary care practice Lack of coherence in the chain of evidence

Level of Certainty	Description
	As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: The limited number or size of studies Important flaws in study design or methods Inconsistency of findings across individual studies Gaps in the chain of evidence Findings not generalizable to routine primary care practice A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Skin cancer:

- Melanoma
- Basal cell carcinoma
- Squamous cell carcinoma

Guideline Category

Prevention

Screening

Clinical Specialty

Dermatology

Family Practice

Oncology

Preventive Medicine

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To update the 2009 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for skin cancer

Target Population

Asymptomatic adults who do not have a history of premalignant or malignant skin lesions

Note: Patients who present with a suspicious skin lesion or who are already under surveillance because of a high risk of skin cancer, such as those with a familial syndrome (e.g., familial atypical mole and melanoma syndrome), are outside the scope of this recommendation statement.

Interventions and Practices Considered

Visual skin examination

Major Outcomes Considered

- Key Question 1: What is the direct evidence that visual skin cancer screening by a primary care clinician or dermatologist reduces skin cancer morbidity and mortality and all-cause mortality?
- Key Question 2: What are the harms of skin cancer screening and diagnostic follow-up?
- Key Question 3: What are the test characteristics of visual skin cancer screening when performed by primary care clinicians vs dermatologists?
- Key Question 4: Does visual skin cancer screening lead to earlier detection of skin cancer compared with usual care?
- Key Question 5: What is the association between earlier detection of skin cancer and skin cancer morbidity and mortality and all-cause mortality?

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Kaiser Permanente Research Affiliates Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources and Searches

MEDLINE, PubMed, and the Cochrane Central Register of Controlled Trials were searched for English-language studies published from January 1, 1995, through June 1, 2015. The reference lists were searched

from included studies, systematic reviews, and meta-analyses. Suggestions were also sought from experts, and Clinicaltrials.gov was searched to identify relevant ongoing trials.

Since June 2015, the investigators continued to conduct ongoing surveillance through article alerts and targeted searches of high-impact journals to identify major studies published in the interim that may affect the conclusions or understanding of the evidence and therefore the related USPSTF recommendation. The last surveillance was conducted on February 16, 2016, and no new studies were included in the review.

Study Selection

Two researchers independently reviewed 12,514 unique titles with abstracts and 453 full-text articles against a priori inclusion and exclusion criteria. The researchers included studies of asymptomatic adults 15 years and older and conducted in countries with a very high (>0.9) Human Development Index (HDI) according to the United Nations. Studies conducted in very high HDI countries are more likely to be applicable to U.S. settings. Randomized clinical trials, observational studies (i.e., cohort and case-control studies), and ecologic studies were included for all key questions. Case series or case reports were also included for identification of potential harms due to screening (Key Question 2). Screening studies were excluded if they focused on skin examinations in response to patient concerns about suspicious lesions or individuals with known skin cancer; skin self-screening by individuals or partners; physician counseling for self-screening; intermediate or health outcomes relating clinician skin examination to other risk factors (e.g., sun-protection behaviors); or measures of patient physician relationship quality (see Figure 2 in the systematic review).

For effectiveness and harms studies, screening tests were defined as whole or partial visual skin examination conducted by primary care physicians or dermatologists with or without tools to aid examination (e.g., dermatoscopy, whole-body photography). For studies focusing on morbidity and mortality, studies of skin cancer mortality, all-cause mortality, or morbidities associated with any skin cancer (i.e., melanoma in situ, dysplastic nevi, and actinic keratosis), including quality of life, were reviewed. For diagnostic accuracy studies, studies that assessed cancer outcomes through cancer registry–based systems or pathology or biopsy reports within a defined period after receipt of screening and estimated false-negative rates for melanoma detection in participants who screened negative were included. For studies on early detection of skin cancer, studies that evaluated either American Joint Committee on Cancer (AJCC) stage or Breslow lesion thickness at diagnosis were included. Detailed search strategies are listed in the eMethods in the systematic review supplement.

Number of Source Documents

The review included 13 unique fair- or good-quality studies reported in 15 publications (see Table 1 in the systematic review [see the "Availability of Companion Documents" field]). Of the 15 publications, 13 were included for 1 Key Question each, and 2 publications were included for 2 Key Questions.

See the literature search flow diagram (Figure 2) in the systematic review (see the "Availability of Companion Documents" field) for a summary of evidence search and selection.

Articles included for Key Questions:

- Key Question 1: 3 articles (1 study)
- Key Question 2: 3 articles (2 studies)
- Key Question 3: 2 articles (2 studies)
- Key Question 4: 1 article (1 study)
- Key Question 5: 8 articles (8 studies)

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Each study was categorized as good, fair, or poor quality in accordance with U.S. Preventive Services Task Force (USPSTF) design-specific quality criteria supplemented with quality criteria for ecologic studies (see the eTable in the systematic review supplement [see the "Availability of Companion Documents" field]).

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Kaiser Permanente Research Affiliates Evidence-based Practice Center (EPC) for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Extraction and Quality Assessment

Dual independent critical appraisal of all articles meeting the inclusion criteria was performed. Each study was categorized as good, fair, or poor quality in accordance with USPSTF design-specific quality criteria supplemented with quality criteria for ecologic studies (see the eTable in the systematic review supplement). Good- and fair-quality studies were included in the summary of evidence; poor-quality studies were excluded. Key data were extracted on study characteristics, study design elements, outcomes for screening studies, health outcomes, and harms. A second reviewer checked the data for accuracy.

Data Synthesis and Analysis

Summary evidence tables were created to capture study characteristics and sources of heterogeneity (e.g., study quality, sample size, geographic location, age, and sex). For each Key Question, the number and design of included studies, overall results, consistency of results, limitations of the body of evidence, applicability of findings, and study quality were summarized. Because few studies were included in the review, summary statistics were not derived and meta-analysis was not conducted.

Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

U.S. Preventive Services Task Force Recommendation Grid*

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D
Moderate	B	B	C	D
Low	Insufficient			

**A*, *B*, *C*, *D*, and *I (Insufficient)* represent the letter grades of recommendation or statement of insufficient evidence assigned by the USPSTF after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the USPSTF seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the USPSTF considers indirect evidence. To guide its selection of indirect evidence, the Task Force constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

> Do the studies have the appropriate research design to answer the key question(s)?
> To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
> To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
> How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
> How consistent are the results of the studies?
> Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the USPSTF process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the USPSTF's overall assessment of evidence was described as good, fair, or poor. The USPSTF realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the USPSTF has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term *certainty* will now be used to describe the USPSTF's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the USPSTF makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The USPSTF must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The USPSTF considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual

practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the USPSTF assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The USPSTF would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of Recommendations" field). The USPSTF would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see the "Availability of Companion Documents" field) summarizes the current terminology used by the USPSTF to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF, Guirguis-Blake J, LeFevre M, Harris R, Petitti D; U.S. Preventive Services Task Force. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147:871-875. [5 references].

I Statements

For I statements, the USPSTF has a plan to commission its Evidence-based Practice Centers (EPCs) to collect information in 4 domains pertinent to clinical decisions about prevention and to report this information routinely. This plan is described in the paper: Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. Ann Intern Med. 2009;150:199-205. www.annals.org .

The first domain is potential preventable burden of suffering from the condition. When evidence is insufficient, provision of an intervention designed to prevent a serious condition (such as dementia) might be viewed more favorably than provision of a service designed to prevent a condition that does not cause as much suffering (such as rash). The USPSTF recognized that "burden of suffering" is subjective and involves judgment. In clinical settings, it should be informed by patient values and concerns.

The second domain is potential harm of the intervention. When evidence is insufficient, an intervention with a large potential for harm (such as major surgery) might be viewed less favorably than an intervention with a small potential for harm (such as advice to watch less television). The USPSTF again acknowledges the subjective nature and the difficulty of assessing potential harms: for example, how bad is a "mild" stroke?

The third domain is cost—not just monetary cost, but opportunity cost, in particular the amount of time a provider spends to provide the service, the amount of time the patient spends to partake of it, and the benefits that might derive from alternative uses of the time or money for patients, clinicians, or systems. Consideration of clinician time is especially important for preventive services with only insufficient evidence because providing them could "crowd out" provision of preventive services with proven value, services for conditions that require immediate action, or services more desired by the patient. For example, a decision to routinely inspect the skin could take up the time available to discuss smoking cessation, or to address an acute problem or a minor injury that the patient considers important.

The fourth domain is current practice. This domain was chosen because it is important to clinicians for at least 2 reasons. Clinicians justifiably fear that not doing something that is done on a widespread basis in the community may lead to litigation. More important, addressing patient expectations is a crucial part of the clinician–patient relationship in terms of building trust and developing a collaborative therapeutic relationship. The consequences of not providing a service that is neither widely available nor widely used are less serious than not providing a service accepted by the medical profession and thus expected by patients. Furthermore, ingrained care practices are difficult to change, and efforts should preferentially be directed to changing those practices for which the evidence to support change is compelling.

Although the reviewers did not explicitly recognize it when these domains were chosen, the domains all involve consideration of the potential consequences—for patients, clinicians, and systems—of providing or not providing a service. Others writing about medical decision making in the face of uncertainty have suggested that the consequences of action or inaction should play a prominent role in decisions.

Rating Scheme for the Strength of the Recommendations

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Grade Definitions	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read "Clinical Considerations" section of USPSTF Recommendation Statement (see the "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: The number, size, or quality of individual studies Inconsistency of findings across individual studies Limited generalizability of findings to routine primary care practice Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of:

Level of Certainty	Description
	The limited number or size of studies Important flaws in study design or methods Inconsistency of findings across individual studies Gaps in the chain of evidence Findings not generalizable to routine primary care practice A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Cost Analysis

The U.S. Preventive Services Task Force (USPSTF) does not consider the costs of providing a service in its assessment.

Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Peer Review

Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center (EPC) and the Agency for Healthcare Research and Quality (AHRQ) send the draft evidence review to 4 to 6 external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. The draft evidence review is also posted on the USPSTF Web site for public comment. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the USPSTF Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from December 1 through December 28, 2015. In response to the comments received, the USPSTF added a reference to a study that examined longer-term melanoma mortality rates in the SCREEN study population. The USPSTF also clarified that the recommendation does encompass all forms of skin cancer (i.e., squamous and basal cell carcinoma and melanoma). A clinical visual skin examination will detect all skin cancer types; however, in assessing the potential benefit of screening, the USPSTF focused on melanoma because the associated morbidity and mortality rates for this type of skin cancer are substantially greater than for the others. In addition, although the systematic evidence review searched for studies of all skin cancer types, the evidence that met the prespecified inclusion criteria for the review only described efficacy outcomes for melanoma.

Several comments stressed that the USPSTF should place greater emphasis on the benefits of detecting and treating nonmelanoma skin cancer, noting the risk for such cancer to become locally destructive and lead to disfigurement if left untreated. Although the USPSTF agrees that reduced morbidity from

nonmelanoma skin cancer or its requisite treatment would be an important benefit of screening, there is currently no evidence available to address this outcome for the clinical visual skin examination. It is therefore unknown whether there is an incremental benefit to detecting nonmelanoma skin cancer through a program of regular visual clinical examination vs. patient self-identification as part of general body awareness followed by reasonably prompt evaluation by a clinician.

Several comments suggested that the USPSTF should consider making a separate positive recommendation for persons who are at increased risk for skin cancer (e.g., those with a family history of melanoma), as they may potentially benefit more from a screening intervention. At present, there is insufficient evidence for any population that regular visual skin examination by a clinician can reduce skin cancer–related morbidity and mortality; the USPSTF agrees that targeted research among populations with the highest burden of disease would be useful.

Comparison with Guidelines from Other Groups

Recommendations for screening from the following groups were discussed: the American Academy of Family Physicians and the American Cancer Society. The USPSTF notes that the following organizations do not have current guidance on screening for skin cancer with visual skin examination: the American College of Physicians, the American College of Preventive Medicine, and the American Academy of Dermatology.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Benefits of Early Detection and Treatment

Evidence is inadequate to reliably conclude that early detection of skin cancer through visual skin examination by a clinician reduces morbidity or mortality.

Potential Harms

Harms of Early Detection and Treatment

Evidence is adequate that visual skin examination by a clinician to screen for skin cancer leads to harms that are at least small, but current data are insufficient to precisely bound the upper magnitude of these harms. Potential harms of skin cancer screening include misdiagnosis, overdiagnosis, and the resulting cosmetic and—more rarely— functional adverse effects resulting from biopsy and overtreatment.

Qualifying Statements

Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness

of specific clinical preventive services for patients without obvious related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an ofï¬cial position of the Agency for Healthcare Research and Quality (AHRQ) or the U.S. Department of Health and Human Services (DHHS).

Implementation of the Guideline

Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF will make all its products available through its Web site . The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services*.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

Implementation Tools

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Final recommendation statement: skin cancer: screening. [internet]. Rockville (MD): U.S. Preventive Services Task Force (USPSTF); 2016 Jul [7 p]. [22 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2016 Jul

Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or its agencies.

Source(s) of Funding

The U.S. Preventive Services Task Force (USPSTF) is an independent, voluntary body. The US Congress mandates that the Agency for Healthcare Research and Quality (AHRQ) support the operations of the USPSTF.

Guideline Committee

U.S. Preventive Services Task Force (USPSTF)

Composition of Group That Authored the Guideline

*Task Force Members**: Kirsten Bibbins-Domingo, PhD, MD, MAS (University of California, San Francisco); David C. Grossman, MD, MPH (Group Health Research Institute, Seattle, Washington); Susan J. Curry, PhD (University of Iowa, Iowa City); Karina W. Davidson, PhD, MASc (Columbia University, New York, New York); Mark Ebell, MD, MS (University of Georgia, Athens); John W. Epling Jr, MD, MSEd (State University of New York Upstate Medical University, Syracuse); Francisco A.R. García, MD, MPH (Pima County Department of Health, Tucson, Arizona); Matthew W. Gillman, MD, SM (Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, Massachusetts); Alex R. Kemper, MD, MPH, MS (Duke University, Durham, North Carolina); Alex H. Krist, MD, MPH (Fairfax Family Practice Residency, Fairfax, Virginia, Virginia Commonwealth University, Richmond); Ann E. Kurth, PhD, RN, MSN, MPH (Yale University, New Haven, Connecticut); C. Seth Landefeld, MD (University of Alabama at Birmingham); Carol M. Mangione, MD, MSPH (University of California, Los Angeles); William R. Phillips, MD, MPH (University of Washington, Seattle); Maureen G. Phipps, MD, MPH (Brown University, Providence, Rhode Island); Michael P. Pignone, MD, MPH (University of Texas at Austin); Albert L. Siu, MD, MSPH (Mount Sinai School of Medicine, New York, New York, James J. Peters Veterans Affairs Medical Center, Bronx, New York)

**Members of the USPSTF at the time this recommendation was finalized. For a list of current Task Force members, go to http://www.uspreventiveservicestaskforce.org/Page/Name/our-members*
.

Financial Disclosures/Conflicts of Interest

The U.S. Preventive Services Task Force (USPSTF) has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. USPSTF members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

Conflict of Interest Disclosures

All authors have completed and submitted the International Committee of Medical Journal Editors (ICMJE) Form for Disclosure of Potential Conflicts of Interest and none were reported. Authors followed the policy regarding conflicts of interest described at http://www.uspreventiveservicestaskforce.org/Page/Name/conflict-of-interest-disclosures
.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Screening for skin cancer: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2009 Feb 3;150(3):188-93. [12 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the U.S. Preventive Services Task Force (USPSTF) Web site .

Availability of Companion Documents

The following are available:

Evidence Reviews:

Wernli KJ, Henrikson NB, Morrison CC, Nguyen M, Pocobelli G, Blasi P. Screening for skin cancer in adults: updated evidence report and systematic review for the U.S. Preventive Services Task Force. JAMA. 2016 Jul 26;316(4):436-47.
Wernli KJ, Henrikson NB, Morrison CC, Nguyen M, Pocobelli G, Whitlock EP. Screening for skin cancer in adults: an updated systematic evidence review for the U.S. Preventive Services Task Force. Evidence Synthesis No. 137. AHRQ Publication No. 14-05210-EF-1. Rockville (MD): Agency for Healthcare Research and Quality; 2016 Jul. 98 p. Available from the U.S. Preventive Services Task Force (USPSTF) Web site .

Background Articles:

Barton MB et al. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. Ann Intern Med 2007;147:123-7.
Guirguis-Blake J et al. Current processes of the U.S. Preventive Services Task Force: refining evidence-based recommendation development. Ann Intern Med 2007;147:117-22.
Sawaya GF et al. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med 2007;147:871-5.
Petitti DB et al. Update on the methods of the U.S. Preventive Services Task Force: insufficient evidence. Ann Intern Med. 2009;150:199-205.

Available from the USPSTF Web site .

The following are also available:

Screening for skin cancer: clinical summary. Rockville (MD): U.S. Preventive Services Task Force (USPSTF); 2016 Jul. 1 p. Available from the USPSTF Web site .

The Electronic Preventive Services Selector (ePSS) is an application designed to provide primary care clinicians and health care teams timely decision support regarding appropriate screening, counseling, and preventive services for their patients. It is based on the current, evidence-based recommendations of the USPSTF and can be searched by specific patient characteristics, such as age, sex, and selected behavioral risk factors.

Patient Resources

The following is available:

Screening for skin cancer. Understanding task force recommendations. Rockville (MD): U.S. Preventive Services Task Force (USPSTF); 2016 Jul. 4 p. Available from the U.S. Preventive Services Task Force (USPSTF) Web site .
Screening for skin cancer. JAMA patient page. JAMA. 2016 Jul 26;316(4):470.

Myhealthfinder is a tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations

from the USPSTF and is available at www.healthfinder.gov .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI on April 6, 2001. The information was verified by the guideline developer as of April 10, 2001. This summary was updated by ECRI Institute on February 9, 2009. The updated information was verified by the guideline developer on March 19, 2009. This summary was updated by ECRI Institute on October 21, 2016. The updated information was verified by the guideline developer on November 18, 2016.

Copyright Statement

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.